**All elements on this form are Exploratory**

Clinical Microfluidic Assessment of Red Blood Cell Adhesion, Deformability, Cellular Hemoglobin Distribution, Cellular Density, and Blood Rheology for Curative Therapies in Sickle Cell Disease

1. Date blood sample drawn: \_\_\_ \_\_\_ / \_\_\_ \_\_\_ \_\_\_/ \_\_\_ \_\_\_ \_\_\_ \_\_\_ (dd/mmm/yyyy)
2. Date sample received: \_\_\_ \_\_\_ / \_\_\_ \_\_\_ \_\_\_/ \_\_\_ \_\_\_ \_\_\_ \_\_\_ (dd/mmm/yyyy)
3. CBC:

Date sample sent for CBC

WBC (x10E9/L)

Nucleated RBC (/100 WBC)

RBC (x10E12/L)

HGB (g/dL)

% HCT (%)

MCV (fL)

MCHC (g/dL)

PLT (x10E9/L)

% RDW-CV (%)

1. Differential:

Date sample sent for Differential

% Neutrophil (%)

% Automated Immature Gran (%)

% Lymphocyte (%)

% Monocyte (%)

% Eosinophil (%)

% Basophil (%)

Neutrophil (x10E9/L)

Lymphocyte (x10E9/L)

Monocyte (x10E9/L)

Eosinophil (x10E9/L)

Basophil (x10E9/L)

1. Retic count

Date sample sent for Retic count: \_\_\_ \_\_\_ / \_\_\_ \_\_\_ \_\_\_/ \_\_\_ \_\_\_ \_\_\_ \_\_\_ (dd/mmm/yyyy)

Retic % (%)

Retic # (x10E12/L)

% Immature Retic Fraction (%)

Retic-HB (pg)

1. LDH

Date sample sent for LDH analysis: \_\_\_ \_\_\_ / \_\_\_ \_\_\_ \_\_\_/ \_\_\_ \_\_\_ \_\_\_ \_\_\_ (dd/mmm/yyyy)

1. Date blood sample drawn: \_\_\_ \_\_\_ / \_\_\_ \_\_\_ \_\_\_/ \_\_\_ \_\_\_ \_\_\_ \_\_\_ (dd/mmm/yyyy)
2. Date sample received: \_\_\_ \_\_\_ / \_\_\_ \_\_\_ \_\_\_/ \_\_\_ \_\_\_ \_\_\_ \_\_\_ (dd/mmm/yyyy)
3. CBC:

Date sample sent for CBC

WBC (x10E9/L)

Nucleated RBC (/100 WBC)

RBC (x10E12/L)

HGB (g/dL)

% HCT (%)

MCV (fL)

MCHC (g/dL)

PLT (x10E9/L)

RDW-CV (%)

1. Differential:

Date sample sent for Differential: \_\_\_ \_\_\_ / \_\_\_ \_\_\_ \_\_\_/ \_\_\_ \_\_\_ \_\_\_ \_\_\_ (dd/mmm/yyyy)

% Neutrophil (%)

% Automated Immature Gran (%)

% Lymphocyte (%)

% Monocyte (%)

% Eosinophil (%)

% Basophil (%)

Neutrophil (x10E9/L)

Lymphocyte (x10E9/L)

Monocyte (x10E9/L)

Eosinophil (x10E9/L)

Basophil (x10E9/L)

1. Retic count

Date sample sent for Retic count

Retic % (%)

Retic # (x10E12/L)

% Immature Retic Fraction (%)

Retic-HB (pg)

LDH (U/L)

1. Hemoglobin composition

Date sample sent for HPLC analysis

% Hemoglobin S (%)

% Hemoglobin C (%)

% Hemoglobin F (%)

% Hemoglobin A (%)

% Hemoglobin A2 (%)

% Other\_\_\_\_\_\_\_\_\_\_\_

1. Whole blood viscosity

Date sample sent for viscosity testing

Viscosity (cP)\_\_\_\_\_\_\_\_\_

1. Ektacytometry results

PoS: Point of Sickling

∆EI: delta EI (EImax-EImin)

\_\_\_\_\_\_\_\_\_El

\_\_\_\_\_\_\_\_\_PO2mmHg

1. Dense Red Blood Cell %

* Measured by ADVIA hematology analyzer
* Light-scattering method

Quantitates both the cell density distribution profile and the fraction of dense, dehydrated cells

